

Patent claims

1. A turbomachine (3), in particular a gas turbine with a compressor, having a rotor (2) rotatably mounted in a casing (1) of the turbomachine (3), having a feed passage (4) arranged in the rotor (2) and intended for feeding a fluid, and having a discharge passage (16) arranged in the rotor (2) and intended for discharging the fluid, the feed having means (10) for influencing the fluid flow, characterized in that the feeding opening (4a) of the feed passage (4) lies radially further on the inside than the outlet opening (16a) of the discharge passage (16), and in that the means (10) for influencing the fluid flow is formed by an actuating arrangement dependent upon centrifugal force.

2. A turbomachine as claimed in claim 1, characterized in that the means (10) for influencing the fluid flow is connected to the discharge passage (16) via a gap (8) formed between moving-blade wheels (7) and an element (18) projecting axially through the rotor shaft (2).

3. The turbomachine as claimed in claim 1 or 2, characterized in that the discharge passage (16) has a throttle element (11).

4. The turbomachine as claimed in claim 1, 2 or 3, characterized in that the discharge passage (16) opens into the flow passage (12) of the turbomachine (3).

5. The turbomachine as claimed in claim 4, characterized in that, to discharge the fluid from the rotor, the discharge passage (16) opens into the flow passage (12) between moving-blade wheels (7) arranged on the rotor shaft (2).

6. The turbomachine as claimed in claim 4, characterized in that the turbomachine is designed as a gas turbine with a compressor, the feed being provided at the compressor-side end of the rotor shaft.

7. A method of cooling a rotor, through which a cooling fluid can flow, of a turbomachine, in particular a gas turbine with a compressor, characterized in that a fluid for cooling the rotor flows through the latter during a rotary operation following the load operation of the turbomachine.

8. The method as claimed in claim 7 for cooling a turbomachine as claimed in one of the preceding claims, characterized in that a fluid flow is prevented during the load operation of the turbomachine.

9. A method of heating a rotor, through which a heating fluid can flow, of a turbomachine, in particular a gas turbine with a compressor, characterized in that a fluid for heating the rotor flows through the latter during a start-up operation carried out before the load operation of the turbomachine.

10. The method as claimed in claim 9 for heating a turbomachine as claimed in one of the preceding claims, characterized in that a fluid flow is prevented during the load operation of the turbomachine.

11. A method as claimed in one of the preceding method claims, characterized in that the fluid used is air.